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09/758,777	01/11/2001	Alan Shapiro	TAG-3.2.001/3658	1711

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GIBBONS, DEL DEO, DOLAN, GRIFFINGER & VECCHIONE  
1 RIVERFRONT PLAZA  
NEWARK, NJ 07102-5497

EXAMINER

GRAHAM, CLEMENT B

ART UNIT PAPER NUMBER

3628

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/758,777	<b>Applicant(s)</b> SHAPIRO, ALAN	
	<b>Examiner</b> Clement B. Graham	<b>Art Unit</b> 3628	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 July 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-47 remained pending.

### Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-47, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lupien et al (Hereinafter Lupien U.S Patent 6, 012, 046) in view Waelbroeck U.S Pub:20020010672A1.

As per claim 1-14, Lupien discloses a method performed using a computer device directing a securities trade order to a particular market method comprising: receiving trade execution quality preference information supplied by a user (see column 7 lines 15-53) receiving an order for at least one securities trade from said user (see column 6 lines 14-22).

Lupien fail to explicitly teach comparing said user supplied trade execution quality preference information to at least one statistical measure for each of a plurality of market centers, and routing said order to one of said plurality of market of market centers as a function of said comparison.

However Waelbroeck discloses the probability that a MP in the dissemination list would execute an order can be calculated from data on how similar order routing events have unfolded in the past. This is required when some MPs have been included in the dissemination list due to information on orders while others are in the list due to information on trades, so that there is no single comparable number that can be used to rank one relative to the other, and when the MPs differ significantly in how they respond to notifications. For example if an institutional desk such as RSSF has been a net buyer in the past hour, it is likely to continue to buy, but if a retail Market Maker such as NITE has been a net buyer, it may need to reverse course and return to a neutral inventory position--so that would not be such a good target for a sell order. Another example of case is one where an order is routed based on displayed size: again, different MPs will react differently to an oversized order. Orders displayed in institutional ECNs such as Instinet are more likely to have reserve size than retail-centric ECNs, and

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different Nasdaq Market Makers will have different rules on when to accept non-liability orders. In both cases (1) and the system relies on a database of past events where orders were routed to given MPs and either executed (in part or in whole) or rejected. The probability of execution can be estimated from this statistical sample-set using a statistical estimator method that is described below. If there is not enough past data on a given MP to compute the probability of execution, the MP is assumed to behave like the average MP and data from all MPs is used to determine the "generic" probability of execution, which is then used to rank this MP in the dissemination list. (see column 3 paragraph 0076, 0012, 0024, and column 15 lines 15 claim 10,18, and 28-29).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Lupien to include comparing said user supplied trade execution quality preference information to at least one statistical measure for each of a plurality of market centers, and routing said order to one of said plurality of market of market centers as a function of said comparison taught by Waelbroeck in order to provide an predictive routing system for user trading of securities.

As per claims 15-19, Lupien discloses a method performed using a computer device of placing an order to trade at least one security, said method comprising: providing user-defined trade execution quality preference(see column 7 lines 15-53) information to a broker/dealer (see column 1 lines 27-40), selecting at least one security for trading and transmitting an order for trading said security (see column 6 lines 14-22). to a broker/dealer(see column 1 lines 27-40).

Lupien fail to explicitly teach said order is carried out at a preferred one of a plurality of market centers, said preferred market center being selected as a function of a comparison of said user-defined trade execution quality preference information with at least one statistical measure for each of said plurality of market centers.

However Waelbroeck discloses the probability that a MP in the dissemination list would execute an order can be calculated from data on how similar order routing events have unfolded in the past. This is required when some MPs have been included in the dissemination list due to information on orders while others are in the list due to information on trades, so that there is no single comparable number that can be used to rank one relative to the other, and

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when the MPs differ significantly in how they respond to notifications. For example if an institutional desk such as RSSF has been a net buyer in the past hour, it is likely to continue to buy, but if a retail Market Maker such as NITE has been a net buyer, it may need to reverse course and return to a neutral inventory position--so that would not be such a good target for a sell order. Another example of case is one where an order is routed based on displayed size: again, different MPs will react differently to an oversized order. Orders displayed in institutional ECNs such as Instinet are more likely to have reserve size than retail-centric ECNs, and different Nasdaq Market Makers will have different rules on when to accept non-liability orders. In both cases (1) and the system relies on a database of past events where orders were routed to given MPs and either executed (in part or in whole) or rejected. The probability of execution can be estimated from this statistical sample-set using a statistical estimator method that is described below. If there is not enough past data on a given MP to compute the probability of execution, the MP is assumed to behave like the average MP and data from all MPs is used to determine the "generic" probability of execution, which is then used to rank this MP in the dissemination list. (see column 3 paragraph 0076, 0012, 0024, and column 15 lines 15 claim 10,18, and 28-29).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Lupien to include said order is carried out at a preferred one of a plurality of market centers, said preferred market center being selected as a function of a comparison of said user-defined trade execution quality preference information with at least one statistical measure for each of said plurality of market centers taught by Waelbroeck in order to provide an predictive routing system for user trading of securities.

As per claims 20-33, Lupien discloses a system for routing orders in financial market comprising:

a computer device configured to receive trade execution quality preference information supplied by a user (see column 7 lines 15-53) and further configured to receive an order for at least one securities trade from said user (see column 6 lines 14-22).

Lupien fail to explicitly teach a database configured to store at least one statistical measure for each of a plurality of market centers and a processor device, in communication with said computer device and said database, configured to compare said user-supplied trade

execution quality preference information to at least one statistical measure for each of said plurality of market centers and further configured to route said order to one of said plurality of market centers as a function of said comparison and configured to store said user supplied trade execution quality preference information.

However Waelbroeck discloses the probability that a MP in the dissemination list would execute an order can be calculated from data on how similar order routing events have unfolded in the past. This is required when some MPs have been included in the dissemination list due to information on orders while others are in the list due to information on trades, so that there is no single comparable number that can be used to rank one relative to the other, and when the MPs differ significantly in how they respond to notifications. For example if an institutional desk such as RSSF has been a net buyer in the past hour, it is likely to continue to buy, but if a retail Market Maker such as NITE has been a net buyer, it may need to reverse course and return to a neutral inventory position--so that would not be such a good target for a sell order. Another example of case is one where an order is routed based on displayed size: again, different MPs will react differently to an oversized order. Orders displayed in institutional ECNs such as Instinet are more likely to have reserve size than retail-centric ECNs, and different Nasdaq Market Makers will have different rules on when to accept non-liability orders. In both cases (1) and the system relies on a database of past events where orders were routed to given MPs and either executed (in part or in whole) or rejected. The probability of execution can be estimated from this statistical sample-set using a statistical estimator method that is described below. If there is not enough past data on a given MP to compute the probability of execution, the MP is assumed to behave like the average MP and data from all MPs is used to determine the "generic" probability of execution, which is then used to rank this MP in the dissemination list. (see column 3 paragraph 0076, 0012, 0024, and column 15 lines 15 claim 10,18, and 28-29).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Lupien to include database configured to store at least one statistical measure for each of a plurality of market centers and a processor device, in communication with said computer device and said database, configured to compare said user-supplied trade execution quality preference information to at least one statistical

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measure for each of said plurality of market centers and further configured to route said order to one of said plurality of market centers as a function of said comparison taught by Waelbroeck in order to provide an predictive routing system for user trading of securities.

As per claims 34-47, Lupien discloses a computer readable medium comprising instructions for directing a securities trade order to a particular financial market, said instructions comprising:

instructions for receiving trade execution quality preference information supplied by a user (see column 7 lines 15-53) and instructions for receiving an order for at least one securities trade from said user (see column 6 lines 14-22).

Lupien fail to explicitly teach instructions for comparing said user supplied trade execution quality preference information to at least one statistical measure for each of a plurality of market centers, and routing said order to one of said plurality of market of market centers as a function of said comparison.

However Waelbroeck discloses the probability that a MP in the dissemination list would execute an order can be calculated from data on how similar order routing events have unfolded in the past. This is required when some MPs have been included in the dissemination list due to information on orders while others are in the list due to information on trades, so that there is no single comparable number that can be used to rank one relative to the other, and when the MPs differ significantly in how they respond to notifications. For example if an institutional desk such as RSSF has been a net buyer in the past hour, it is likely to continue to buy, but if a retail Market Maker such as NITE has been a net buyer, it may need to reverse course and return to a neutral inventory position--so that would not be such a good target for a sell order. Another example of case is one where an order is routed based on displayed size: again, different MPs will react differently to an oversized order. Orders displayed in institutional ECNs such as Instinet are more likely to have reserve size than retail-centric ECNs, and different Nasdaq Market Makers will have different rules on when to accept non-liability orders. In both cases (1) and the system relies on a database of past events where orders were routed to given MPs and either executed (in part or in whole) or rejected. The probability of execution can be estimated from this statistical sample-set using a statistical estimator method that is described below. If there is not enough past data on a given MP to compute the probability of

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execution, the MP is assumed to behave like the average MP and data from all MPs is used to determine the "generic" probability of execution, which is then used to rank this MP in the dissemination list. (see column 3 paragraph 0076, 0012, 0024, and column 15 lines 15 claim 10,18, and 28-29).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Lupien to include instructions for comparing said user supplied trade execution quality preference information to at least one statistical measure for each of a plurality of market centers, and routing said order to one of said plurality of market of market centers as a function of said comparison taught by Waelbroeck in order to provide an predictive routing system for user trading of securities.

## CONCLUSION

### Response to Arguments

4. Applicant's arguments files on 7/27/05 have been fully considered but they are not persuasive for the following reasons.
5. In response to Applicant's arguments with regards to Lupien and Waelbroeck.
6. In response to applicant's arguments that prior art of reference fail to teach or suggest" receiving trade execution quality preference information supplied by a user receiving an order for at least one securities trade from said user and comparing said user supplied trade execution quality preference information to at least one statistical measure for each of a plurality of market centers, and routing said order to one of said plurality of market of market centers as a function of said comparison and providing user-defined trade execution quality preference information to a broker/dealer selecting at least one security for trading and transmitting an order for trading said security to a broker/dealer said order is carried out at a preferred one of a plurality of market centers, said preferred market center being selected as a function of a comparison of said user-defined trade execution quality preference information with at least one statistical measure for each of said plurality of market centers directing a securities trade order to a particular financial market, said instructions comprising instructions for receiving trade execution quality preference information supplied by a user and instructions for



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receiving an order for at least one securities trade from said instructions for comparing said user supplied trade execution quality preference information to at least one statistical measure for each of a plurality of market centers, and routing said order to one of said plurality of market of market centers as a function of said comparison" these limitations were addressed above in a combinations of teachings as stated.

Lupien discloses a method of directing a securities trade order to a particular market receiving trade execution quality preference information supplied by a user see column 7 lines 15-53 receiving an order for at least one securities trade from said user see column 6 lines 14-22 and providing user-defined trade execution quality preference see column 7 lines 15-53 information to a broker/dealer see column 1 lines 27-40 selecting at least one security for trading and transmitting an order for trading said security see column 6 lines 14-22 to a broker/dealer. see column 1 lines 2-40 and a computer device configured to receive trade execution quality preference information supplied by a user see column 7 lines 15-53 and further configured to receive an order for at least one securities trade from said user see column 6 lines 14-22.

Waelbroeck teaches the probability that a MP in the dissemination list would execute an order can be calculated from data on how similar order routing events have unfolded in the past. This is required when some MPs have been included in the dissemination list due to information on orders while others are in the list due to information on trades, so that there is no single comparable number that can be used to rank one relative to the other, and when the MPs differ significantly in how they respond to notifications. For example if an institutional desk such as RSSF has been a net buyer in the past hour, it is likely to continue to buy, but if a retail Market Maker such as NITE has been a net buyer, it may need to reverse course and return to a neutral inventory position--so that would not be such a good target for a sell order. Another example of case is one where an order is routed based on displayed size: again, different MPs will react differently to an oversized order. Orders displayed in institutional ECNs such as Instinet are more likely to have reserve size than retail-centric ECNs, and different Nasdaq Market Makers will have different rules on when to accept non-liability orders. In both cases (1) and the system relies on a database of past events where orders were routed to given MPs and either executed (in part or in whole) or rejected. The probability of execution can be

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estimated from this statistical sample-set using a statistical estimator method that is described below. If there is not enough past data on a given MP to compute the probability of execution, the MP is assumed to behave like the average MP and data from all MPs is used to determine the "generic" probability of execution, which is then used to rank this MP in the dissemination list. (see column 3 paragraph 0076, 0012, 0024, and column 15 lines 15 claim 10,18, and 28-29).

Therefore it is obviously clear Applicant's claimed limitations were addressed with the teachings of Lupien and Waelbroeck.

7. With respect to Applicant's second argument, Examiner respectfully submits that obviousness is not determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See *In re Oetiker*, 977F. 2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Hedges*, 783F.2d 1038, 1039, 228 USPQ\* 685, 686 (Fed. Cir.1992); *In re Piaseckii*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir.1984); *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Using this standard, the Examiner respectfully submits that he has at least satisfied the burden of presenting a prima facie case of obviousness, since he has presented evidence of corresponding claim elements in the prior art and has expressly articulated the combinations and the motivations for combinations that fairly suggest Applicant's claimed invention. Note, for example, in the instant case, the Examiner respectfully notes that each and every motivation to combine the applied references are accompanied by select portions of the respective reference(s) which specially support that particular motivation and /or an explanation based on the logic and scientific reasoning of one ordinarily skilled in the art at the time of the invention that support a holding of obviousness. As such, it is not seen that the Examiner's combination of references is unsupported by the applied prior art of record. Rather, it is respectfully submitted that explanation based on the logic and scientific reasoning of one of ordinarily skilled in the art at the time of the invention that support a holding of obviousness has been adequately provided by the motivations and reasons indicated by the Examiner, *Ex pane Levengood*, 28 USPQ2d 1300(Bd. Pat. App &.,4/293 Therefore the combination of reference is proper and the rejection is maintained.

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8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clement B Graham whose telephone number is 703-305-1874. The examiner can normally be reached on 7am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S. Sough can be reached on 703-308-0505. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-0040 for regular communications and 703-305-0040 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

CG

January 23, 2005



For \_\_\_\_\_

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